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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,995	07/15/2003	Myung-Sop Lee	5000-1-304	8791
33942	7590	12/29/2005	EXAMINER	
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			VINCENT, SEAN E	
			ART UNIT	PAPER NUMBER
			1731	
DATE MAILED: 12/29/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,995

Applicant(s)

LEE ET AL.

Examiner

Sean E. Vincent

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 5-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims 5-12 drawn to an invention nonelected with traverse in the reply filed July 29, 2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Harding (4,793,840). Harding (Figure) disclosed an apparatus for drawing an optical fiber comprising:

- a melting furnace (3) for melting an optical fiber preform (1)
- a preform feeder (2) for feeding the preform (1) to the melting furnace (3)
- a capstan (5) for drawing an optical fiber (4) by pulling the preform (1) from the melting furnace (3);
- an outer diameter measurement unit (9) for measuring the outer diameter of the drawn optical fiber; and
- a control unit (31) for controlling the outer diameter of the optical fiber, wherein the control unit (31) includes a calculation unit for receiving a drawing speed signal output from the capstan (5) and calculating a feed speed of the preform by disclosing a control system comprising the means for measuring the speed of the capstan and a control algorithm for

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comparing the measured speed with the preset speed and arranged to provide a control signal for adjusting the first rate at which the preform is fed into the furnace (see Claim 3).

4. While Harding did not teach calculating a speed relative to a change in time (acceleration) or estimating the speed in a subsequent period, the functional limitation is not considered to further limit the apparatus claim. As discussed with regards to claims 2-4 below, the apparatus of Harding was capable of calculations beyond a simple setpoint comparison. It is the position of the examiner that the apparatus of Harding was capable of performing all of the claimed functions. See MPEP 2114.

5. Regarding claim 2, the apparatus of Harding meets the limitations of claim 2 by disclosing the electronic controller 31 takes over control of the capstan speed in response to changes in diameter represented by the deviation signal from the monitor (Col. 2 lines 40-44) and further by disclosing the following example, as soon as the commencement of any change is sensed by the monitor (9), such as an increased diameter, the controller (31) responds by making a short-term adjustment to the capstan drive (25) to increase the speed of the capstan (5) to thus tend to reduce the diameter and maintain its nominal preset value (Col. 2 lines 54-65).

6. Regarding claim 3, the apparatus of Harding meets the limitations of claim 3 by disclosing the following:

a stable situation exists with the capstan running at a speed slightly greater than the preset line speed and no deviation in the nominal diameter and where the capstan speed is greater than the nominal or preset speed, which has been calculated beforehand based on data derived from an earlier measurement. Thus the control algorithm functions to maintain long term control of the preform feed drive and will thus, in the situation described, attempt to increase slowly the preform feed rate to match the measured capstan

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speed. The capstan speed will still be subject to short-term adjustment by the diameter monitor should that sense any deviation from the preset diameter (Col. 3 lines 1-20).

7. In the situation above, an example of “using a calculated slope and a difference between the present drawing speed and a target drawing speed” is interpreted as being disclosed by Harding above, as the detection of the drawing speed, which for a length of time, is running at a slightly higher draw speed than the target. Further, an example of “estimating a compensation value to a difference between the present drawing speed and a target drawing speed as well as a compensation value according to a difference between the present drawing speed and the expected drawing speed of the arbitrary time later, and calculating the preform feed speed based on the estimated compensation” is interpreted as disclosed by Harding above, as the control algorithm functions to maintain long term control of the preform feed drive and this will attempt to increase slowly the preform feed rate to match the measured capstan speed.

8. With regard to claim 4, Harding fails to specifically disclose wherein the previously arbitrary time period includes a period prior to automatic feed by the preform feeder. However, the apparatus of Harding is capable of being of performing the limitations set forth in claim 3, since it has been disclosed by Harding that a first and second predetermined feed rate during the pulling of the fiber can be controlled by apparatus (see Claim 1). It is the position of the examiner that the apparatus of Harding is capable of meeting the limitations of claim 4, since the control unit is capable of modifying the feed of the preform feeder as desired by the control algorithm.

Response to Arguments

9. Applicant's arguments filed October 17, 2005 have been fully considered but they are not persuasive.

10. In response to the argument that Harding fails to teach and anticipate the features of the claims, the examiner disagrees. The Harding apparatus is structurally identical to the claimed apparatus. The features relied upon by the applicant for patentability are all functional limitations. None of the functional limitations require structural modifications to the disclosed apparatus. The calculation capabilities of the apparatus of Harding were demonstrated to anticipate a long-term and/or a predictive control aspect. It is the position of the examiner that the apparatus of Harding was capable of performing all of applicant's claimed functions. See MPEP 2114.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

12. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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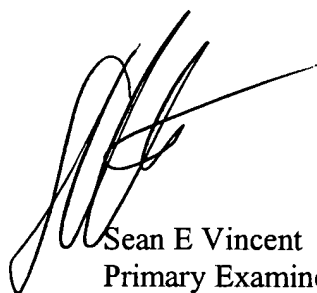
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E. Vincent whose telephone number is (571) 272-1194.

The examiner can normally be reached on M - F (8:30 - 6:00).

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sean E Vincent
Primary Examiner
Art Unit 1731

S Vincent
December 23, 2005